SUPPLEMENTAL SPECIFICATION

AMENDMENT TO SECTION 614 - ELECTRICAL CONDUIT

Amend 2.1 to read:

2.1 Steel conduit and steel conduit for sleeves shall conform to ASTM A 53 Standard Weight and shall be galvanized unless otherwise specified.

Amend 2.5 to read:

2.5 Concrete pull boxes, either precast or cast in place, shall be constructed using concrete conforming to 520, Class A and designed for AASHTO H20 loading. Frame and cover castings shall be gray iron conforming to AASHTO M 105. Unless otherwise specified, all gray iron castings shall be Class 30. Pull boxes and covers shall be constructed as detailed on the plans.

Amend 2.6 to read:

2.6 Molded pull boxes shall be either fiberglass-filled high density polyethylene (HDPE), fiber reinforced polyester mortar, or fiberglass cloth reinforced polymer concrete, all with high impact resistance, ultraviolet stabilization tested per ASTM G53 and Chemical resistant tested per ASTM 543 section 7. The box and cover shall be designed for off roadway applications subject to incidental, non-deliberate heavy vehicular traffic in accordance with the Western Underground Committee Guide 3.6 for nonconcrete enclosures (WUC Guide 3.6). Boxes and covers shall be tested with the cover in place.

Add to 2.6:

2.6.1 The cover shall withstand a vertical test load of 86 kN (20,800 lb) applied at the center of the cover, by a 250 by 250 mm (10" x 10") plate, with less than 12.5 mm (½") deflection over 10 test cycles. The boxes shall withstand a vertical box wall test load of 86 kN (20,800 lb) applied by a 250 by 250 mm (10" x 10") plate with a 125 by 250 mm (5" x 10") area centered on the long wall with no more than 6 mm (¼") deflection per 0.3 m (foot) of length of enclosure over 10 test cycles. Boxes shall also withstand a lateral sidewall test load of 22 kN (1,200 lb per square foot) applied by a plate 600 mm (24") by the depth of the box, with no more than 6 mm (¼") deflection per 0.3 m (foot) of length of enclosure over 10 test cycles. Tested in accordance with Section 4.1 of WUC Guide 3.6. Permanent deflection of any surface shall not exceed 10 percent of the maximum allowable static test load deflection.

2.6.2 Enclosures shall be designed and suitable for installation and use through a temperature range -40º C to 90º C (-40º F to 195º F)

2.6.3 Covers, boxes and extensions shall meet the acceptance criteria in accordance with Section 5.3 of WUC Guide 3.6. A spray or paint covering shall not be used to achieve the required nonflamability.

2.6.4 Boxes and extensions shall have adequate soil bearing surface to prevent settling in any soil, when tested in accordance with Section 4.1 of WUC Guide 3.6.

2.6.5 Covers and extensions shall be interchangeable with other boxes of the same material type and size manufactured to WUC Guide 3.6.

2.6.6 Any point on the covers shall withstand a 95 N-m (70 lb(f)-ft) impact administered with a 5.4 kg (12 lb) weight using a "C" TUP (ASTM D-2444) without puncturing or splitting. The test shall be performed with the cover resting upon a flat, rigid surface such as concrete or a 25 mm (1") steel plate.

2.6.7 Cover surface shall provide a minimum coefficient of friction of 0.50. Covers shall be secured to box with two penta-head stainless steel bolts conforming to ASTM A 240 Type 304. Bolts shall be self-retaining and shall withstand a minimum of 95 N-m (70 lb(f)-ft) torque and have a minimum of 3.3kN (750 lbs.) straight pull out strength. Nuts shall be floating, replaceable and in a nut cavity which is free draining and shall provide a minimum of 12.5 mm (½") movement from the center of the nut.

2.6.8 A Certificate of Compliance that the enclosure meets the above requirements when tested in accordance the Western Underground Committee Guide 3.6 testing procedures by a nationally recognized independent testing laboratory shall be provided.

Amend 3.1.2 to read:

3.1.2 Installations beyond the limits of the traveled way and shoulders shall be constructed with Schedule 80 PVC conduit (EPC), Schedule 40 PVC conduit (EPC), or rigid steel conduit. These materials may also be used under sidewalks and parking lots subject to incidental heavy vehicular activity.

Amend 3.2 to read:

3.2 Bedding. All conduit to be laid in the ground shall be placed on a prepared bedding which shall provide a firm foundation. Where rock or unstable soil is encountered, the bottom of the proposed bedding surface shall have a 150 mm (6 in) layer of Granular Backfill - Sand conforming to 209.2.1 and 209.2.1.1, compacted as directed.

Amend 3.4.3 to read:

3.4.3 When conduit is installed within traveled ways, shoulders, sidewalks and parking areas, the backfill shall be placed to 150 mm (6 in) above the conduit or encasement and compacted by

pneumatic tampers, vibratory compactors, or other approved means. Additional backfill shall be placed in layers not greater than 150 mm (6 in).

Add to 3.4:

3.4.4 All backfill shall be compacted to not less than 95 percent of maximum density as determined by AASHTO T 99.

Renumber:

3.4.4 to **3.4.5**

3.4.5 to **3.4.6**

3.4.6 to **3.4.7**

Amend 3.6 to read:

3.6 Pull Boxes.

3.6.1 Pull boxes within the limits of the traveled way, shoulders, whether paved or unpaved, parking lots, adjacent to slope curb, and within 3.0 m (10 ft.) of the edge of pavement shall be concrete and installed as shown on the plans and specified herein.

3.6.2 Pull boxes outside the limits of 3.6.1 shall be concrete or molded and installed as shown on the plans and specified herein.

3.6.3 All pull boxes shall be placed on a minimum of 150 mm (6 in) of Granular Backfill conforming to 209.2.1 extending at least 100 mm (4 in) beyond the outside of the pull box compacted to not less than 95 percent of maximun density as determined by AASHTO T 99. With the cover installed, soil shall be backfilled and compacted around the box. At final installation the box and cover shall be flush with finished grade.

3.6.4 Pullbox covers shall have a rcessed logo indicating the type of service enclosed.

3.6.5 An approved 50 mm (2 in) galvanized "J" hook shall be installed as directed in pull boxes designated to be used for traffic signal circuits.

Amend 5.1.3 to read:

5.1.3 Hot bituminous pavement required in 3.4.5 will be paid under 403. If the item of 403 is not included in the contract, this work will be paid as provided in 109.04.

Amend 5.2 to read:

5.2 The accepted quantities of pull boxes of the type specified will be paid for at the contract unit price per each.

5.2.1 No extra payment will be made for material specified in 3.6.3.